

## REMARKS

Responsive to the non-final Office Action mailed August 16, 2006, Applicant has studied the Examiner's comments and the cited art. Claims 1-14 and 21-58 were pending. Applicant has cancelled system claims 15-20 without prejudice. Applicant reserves the right to seek allowance of cancelled claims 15-20 in a divisional application from U.S. Serial No. 10/807,091 filed March 23, 2004, which claims priority from U.S. Patent No. 6,263,982. In view of the following remarks, Applicant respectfully submits that the application is in condition for allowance.

### **Claim Rejections Under 35 U.S.C. § 102**

Claims 48-57 are rejected under 35 U.S.C. § 102(a) as being anticipated by Hannegan et al., U.S. Patent No. 6,262,982 (the "Hannegan '982 Patent"), with the Examiner stating:

"Hannegan discloses a method for moving a drilling fluid using a structure S floating on the ocean surface. Floating structure S is coupled to a riser R though (sic) a flexible conduit 30. **The drilling fluid is moved from the floating structure to an annulus of the riser surrounding tubular 14. A portion of the drilling fluid is moved down the annulus.** As to claim 49, the method is used in a drilling method. As to claim 50, tubular 14 is rotatable. As to claim 51, a portion of the drilling fluid is moved down the annulus and up the tubular 14. As to claim 51 (sic - 52), the drilling fluid is pressurized to a predetermined pressure. As to claim 53, the flexible conduit is connected to a mud pump whose pump rate controls the pressure and pumps the drilling fluid into the conduit. As to claim 54, the riser is sealed to the tubing by use of a rotating seal. As to claim 55, the seal maintains the pressure. As to claim 56, the flexible conduit communicates drilling fluid below the seal. As to claim 57, the pressure of the drilling fluid in the flexible conduit must be higher than the pressure in the tubular in order for the drilling fluid to flow down the annulus and up the tubular." (bold added)

Applicant respectfully traverses the rejections.

Applicant added "new" claims 48 to 58 in the previous Response and Amendment to provide a varied scope of coverage to which Applicant is entitled. Only claim 48 is in independent form. Claims 48 to 58 are similar to claims 1-10 and 13 filed in the 2006 British Patent Application No. 0607617.8, that is derived from Application No. PCT/EP04/052167 that, in turn, claims priority from the present application.

With respect to independent claim 48, the Hannegan '982 Patent does not disclose "moving the drilling fluid from the floating structure via the flexible conduit to an annulus of the riser surrounding a tubular," as in Applicant's claimed subject matter. Such a flow is the reverse of the circulation disclosed by the Hannegan '982 Patent. *Monarch Knitting Machinery v. Sulzer Morat GMBH*, 139 F.3d 877, 885 (Fed.Cir. 1998) ("A prior art reference may be considered to teach away when 'a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.' . . . General skepticism of those in the art—not amounting to teaching away—is also 'relevant and persuasive evidence' of nonobviousness. . . . In effect,

'teaching away' is a more pointed and probative form of skepticism expressed in the prior art. In any case, the presence of either of these indicia gives insight into the question of obviousness.") The Hannegan '982 Patent discloses the conventional drilling fluid flow: pumping drilling fluid down the rotatable tubular or drill string, returning at least some of the fluid back up the annulus around the tubular formed by the casing of the riser, then discharging the fluid out to mud pits.<sup>1</sup> The Hannegan '982 Patent nowhere discloses pumping the drilling fluid down this annulus. Furthermore, flexible conduits 30 and 32 of the Hannegan '982 Patent are disclosed for discharge of fluid *from* the housing, through connectors 16 and 18 that include features to "reduce erosion caused by fluid discharged from the seal housing."<sup>2</sup> As claim 48 is neither anticipated nor obvious in view of the Hannegan '982 Patent, Applicant respectfully requests withdrawal of the rejection.

Rejected dependent claims 49 to 57 depend from allowable independent claim 48 and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

In addition, with respect to claim 51, the Hannegan '982 Patent does not disclose "moving the portion of the drilling fluid down the annulus and up the tubular." As shown above, the Hannegan '982 Patent discloses the conventional flow technique of pumping drilling fluid down the tubular, instead of returning fluid up the tubular, as claimed in the present invention. For this further reason, Applicant respectfully submits claim 51 is allowable.

With respect to claim 56, as shown above, the Hannegan '982 Patent does not disclose that the flexible conduit "communicates the drilling fluid to an annulus below the rotatable seal." For this further reason, Applicant respectfully submits claim 56 is allowable.

#### **Claim Rejections Under 35 U.S.C. § 103**

Claim 58 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hannegan et al., U.S. Patent No. 6,262,982 (the "Hannegan '982 Patent"), in view of Hale, U.S. Patent No. 5,076,364, with the Examiner stating:

**"Hannegan is considered to disclose all of the claimed features except for the formation of a mud cap. Hale et al. teaches (column 12, lines 49-55) forming a mud cap in an offshore drilling system. It would have been considered obvious to form a mud cap in the system of Hannegan as taught by Hale for the taught purpose of Hale of eliminating or decreasing the amount of hydrates formed."**  
(bold added)

Applicant respectfully traverses the rejection.

<sup>1</sup> See, e.g., Col. 2, lines 64-66; Col. 4, lines 48-50; and claims 6, 12, 14, 20, 21, and 26.

<sup>2</sup> Col. 4, lines 34-42.

With respect to dependent claim 58, the Office Action admits that the Hannegan '982 Patent fails to disclose the formation of a mud cap.<sup>3</sup> While claim 58 uses the gerund "creating" instead of "formation," the Office Action attempts to use Hale to fill this gap.

First, the Office Action fails to show that the subject matter as a whole of claim 58 would have been obvious at the time of the invention was made to a person of ordinary skill in the art by combining the Hannegan '982 Patent and Hale. 35 U.S.C. § 103. The Office Action argues that it would be obvious to combine the two references "for the taught purpose of Hale of eliminating or decreasing the amount of hydrates formed."<sup>4</sup> Hale is directed to dealing with a problem that occurs during the temporary abandonment of a drilling well in an offshore environment,<sup>5</sup> or when temporarily shutting in a producing well,<sup>6</sup> while, as the title of the Hannegan '982 Patent makes clear, the Hannegan '982 Patent is directed to an apparatus and method for use "while drilling."<sup>7</sup> Nothing in the Hannegan '982 Patent or in Hale suggests that formation of hydrates is a problem while drilling. Instead, Hale discloses that "the art is in need of a process for dealing with the temporary abandonment of a drilling well in an offshore environment, or a producing well is temporarily shut-in, and how to avoid gas hydrate formation under such conditions."<sup>8</sup> Hale describes injecting an alcohol into a drilling mud carrier, which "becomes what is known in the art as a 'pill' which is injected into the well before the well is abandoned."<sup>9</sup> In "producing wells that are temporarily shut-in," the pill can be injected at various points.<sup>10</sup> Therefore, it would not be obvious to combine the relied-upon references.

"In *Graham*, the Court held that the obviousness analysis begins with several basic factual inquiries: '[ (1) ] the scope and content of the prior art are to be determined; [ (2) ] differences between the prior art and the claims at issue are to be ascertained; and [ (3) ] the level of ordinary skill in the pertinent art resolved.' .... After ascertaining these facts, the Court held that the obviousness *vel non* of the invention is then determined 'against th[e] background' of the *Graham* factors. .... (emphasis added). Clearly, the Court recognized the importance of guarding against hindsight, as is evident in its discussion of the role of secondary considerations as "serv[ing] to guard against slipping into use of hindsight and to resist the temptation to read into the prior art the teachings of the invention in issue."

*Alza Corp. v. Mylan Laboratories, Inc.*, 464 F.3d 1286, 1289-1290 (Fed. Cir. 9/6/2006).

<sup>3</sup> Paper 20060816, p. 3.

<sup>4</sup> Paper 20060816, p. 3.

<sup>5</sup> Col. 1, lines 38-40.

<sup>6</sup> Col. 1, lines 40-42.

<sup>7</sup> Hannegan, Title.

<sup>8</sup> Hale, Col. 1, lines 38-42.

<sup>9</sup> Hale, Col. 1, line 61-Col. 2, line 3.

<sup>10</sup> Hale, Col. 2, lines 3-5; Col. 2, lines 53-55; Col. 12, lines 45-59; Col. 15, lines 3-6; Col. 22, lines 1-3; and claim 9.

For these reasons, Applicant respectfully requests the withdrawal of the rejection.

Second, the “pill” of Hale is not a mud cap as understood by one of ordinary skill in the art as disclosed in Applicant’s Specification.<sup>11</sup> Because water is produced throughout a well, potentially allowing the formation of hydrates throughout the well, the pill of Hale must mix with water throughout the well to be effective. Hale is directed to injecting an alcohol composition that will mix with water throughout the well, including the annulus, drill string, and blowout preventer. Thus Hale not only fails to teach or suggest “creating a mud cap,” as in Applicant’s claimed subject matter, Hale teaches away from creating the pill. *Monarch Knitting Machinery v. Sulzer Morat GMBH*, 139 F.3d 877, 885 (Fed.Cir. 1998) (“A prior art reference may be considered to teach away when ‘a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.’ . . . . General skepticism of those in the art—not amounting to teaching away—is also ‘relevant and persuasive evidence’ of nonobviousness. . . . In effect, ‘teaching away’ is a more pointed and probative form of skepticism expressed in the prior art. In any case, the presence of either of these indicia gives insight into the question of obviousness.”) For these additional reasons, Applicant respectfully requests withdrawal of the rejection.

As shown above with respect to claim 58, neither the Hannegan ‘982 Patent nor Hale disclose “creating a mud cap.” For this additional reason, Applicant respectfully requests withdrawal of the rejection.

Rejected dependent claim 58 depends from allowable independent claim 48 and is therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejection.

**Allowed Subject Matter**

Applicant gratefully acknowledges that claims 1-14 and 21-47 are allowed.

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<sup>11</sup> Specification, paras. [0009]-[0010].

### CONCLUSION

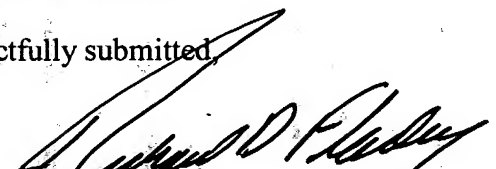
Applicant respectfully submits that all issues and rejections have been adequately addressed, that all claims are allowed or are allowable, and that the case should be advanced to issuance.

If the Examiner has any questions or wishes to discuss the claims, Applicant encourages the Examiner to call the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: November 14, 2006

By:



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